



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

Sandhu et al.

**Serial No.:** 10/637,108

**Filed:** August 8, 2003

**For:** LOW RESISTANCE CONTACT TO  
SILICON HAVING A TITANIUM SILICIDE  
INTERFACE AND AN AMORPHOUS  
TITANIUM CARBONITRIDE BARRIER  
LAYER

**Examiner:** M. Lebentritt

**Group Art Unit:** 2824

**Attorney Docket No.:** 2269-3264.6US  
(92-0280.09/US)

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence along with any attachments referred to or identified as being attached or enclosed is being deposited with the United States Postal Service as First Class Mail on the date of deposit shown below with sufficient postage and in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 6, 2004  
Date

Signature

Deidra Pfeil  
Name (Type/Print)

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 or PTO/SB/08 be considered by the Examiner and made of record. The listed documents are from co-pending application Serial No. 10/637,107, filed August 8, 2003. Copies of the listed documents are enclosed pursuant to 37 C.F.R. § 1.98(a).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicants herein that no other possible material information as defined in 37 C.F.R. § 1.56 (b) exists.

U.S. Patent Documents

<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
4,998,151	03/05/91	Korman et al.
5,242,860	09/07/93	Nulman et al.

Foreign Patent Documents

<u>Document No.</u>	<u>Publication Date</u>	<u>Patentee</u>
WO 86/01640	03/13/86	Dean

Other Documents

EIZENBERG et al., "TiCN: A new chemical vapor deposited contact barrier metallization for submicron devices", Appl. Phys. Lett. 65 (19), 7 November 1994, pps. 2416-2418.

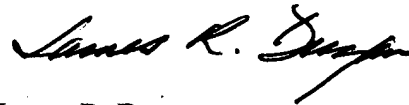
Peng et al., "Properties of CVD-W Overgrowth on PVD and MOCVD TiN Layers, IEEE, 5th International Conference Proceeding on Solid-State and Integrated Circuit Technology, 1998, pps. 211-214.

Applicants offer to supply any explanation or discussion of the documents which the Examiner feels is necessary or desirable and which is requested.

This Supplemental Information Disclosure Statement is filed after the mailing date of the first Office Action on the merits.

I hereby certify that no item of information contained in the Supplemental Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the statement, and therefore no fee is due.

Respectfully submitted,



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Date: April 6, 2004  
JRD/sls:djp

Enclosures: Form PTO-1449 or PTO/SB/08  
Copy of documents cited

Document in ProLaw

\* Did not receive

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT***(use as many sheets as necessary)*

Sheet 2 of 2

**Complete if Known**

Application Number	10/637,108
Filing Date	August 8, 2003
First Named Inventor	Sandhu et al.
Group Art Unit	2824
Examiner Name	M. Lebentritt
Attorney Docket Number	3264.6US (92-0280.09/US)

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		EIZENBERG et al., "TiCN: A new chemical vapor deposited contact barrier metallization for submicron devices", Appl. Phys. Lett. 65 (19), 7 November 1994, pps. 2416-2418.	
		Peng et al., "Properties of CVD-W Overgrowth on PVD and MOCVD TiN Layers, IEEE, 5 <sup>th</sup> International Conference Proceeding on Solid-State and Integrated Circuit Technology, 1998, pps. 211-214.	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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